AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A wireless transmission system in which a plurality of wireless stations are each capable of transmitting ~~each transmit~~ a signal to a receiving station, ~~and~~ wherein a path diversity system is formed by at least one ~~transmitter-side~~ of the wireless ~~station~~ stations that is capable of signal transmission, a multi-path channel and the receiving station, the wireless transmission system comprising:

a transmission timing control section for determining a transmission start timing at which to start transmission of a signal from each of the wireless stations, the transmission start timing being a timing obtained by delaying a reference timing for the ~~signal~~ transmission of the signal by a predetermined delay amount for each of the wireless stations;

a transmitting section for transmitting ~~the signal~~ signals at the transmission start timing determined by said transmission timing control section; and

a receiving section provided in the receiving station for receiving the transmitted ~~signal~~ signals,

wherein the predetermined delay amount is determined so ~~that~~ that: 1) the signals are received by said receiving section at a plurality of signal-receiving timings; 2) a number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches; 3) a difference between the plurality of signal-receiving timings is greater than or equal to a predetermined delay resolution; 4) and a difference between a maximum value and a minimum value of the plurality of signal-receiving timings is less than or equal to a predetermined maximum delay, and

when a number of ~~transmitter-side~~ wireless stations transmitting the signals is larger than the predetermined maximum number of effective branches, the number of signal-receiving timings at which the receiving station receives signals is made equal to the predetermined maximum number of effective branches.

2. **(Previously Presented)** The wireless transmission system according to claim 1, wherein the predetermined maximum number of effective branches, the predetermined delay resolution and the predetermined maximum delay are set to values such that a plurality of delayed waves are received with path diversity.

3. **(Previously Presented)** The wireless transmission system according to claim 1, wherein:

said transmission timing control section and said transmitting section are provided in each wireless station; and

the reference timing stored in each wireless station is a predetermined timing, and the plurality of wireless stations store the same reference timing.

4. **(Currently Amended)** The wireless transmission system according to claim 1, further comprising:

a transmitting station for transmitting, to the plurality of wireless stations, a signal to be transmitted to the receiving station;

said transmitting station including a transmitter signal transmitting section for transmitting, to the plurality of wireless stations, the signal to be transmitted to the receiving station;

said transmission timing control section and said transmitting section are provided in each wireless station;

each wireless station includes:

a relay receiving section for receiving the signal transmitted by ~~the~~ said transmitter signal transmitting section; and

a timing detection section for detecting a timing at which the signal is received by ~~the~~ said relay receiving section;

said transmission timing control section determines the reference timing to be the timing detected by ~~the~~ said timing detection section; and

said transmitting section transmits a signal received by ~~the~~ said relay receiving section to the receiving station.

5. **(Currently Amended)** The wireless transmission system according to claim ~~3~~4, wherein said timing detection section detects a unique word contained in the signal.

6. **(Currently Amended)** The wireless transmission system according to claim 1,

further comprising:

a transmitting station for transmitting, to the plurality of wireless stations, a signal to be transmitted to the receiving station;

said transmitting station includes:

a transmitter signal transmitting section for transmitting, to the plurality of wireless stations, the signal to be transmitted to the receiving station;

a delay amount selecting section for selecting the predetermined delay amount from among a plurality of candidate values;

a re-transmission start timing determining section for determining a re-transmission start timing, at which to transmit the signal to the receiving station, the re-transmission start timing being a timing obtained by delaying the reference timing by the predetermined delay amount selected by ~~the~~ said delay amount selecting section; and

a re-transmit signal transmitting section for transmitting the signal to the receiving station at the re-transmission start timing determined by ~~the~~ said re-transmission start timing determining section;

said transmission timing control section and said transmitting section are provided in each wireless station;

each wireless station includes a relay receiving section for receiving a signal transmitted by ~~the~~ said transmitter signal transmitting section; and

said transmitting section transmits a signal received by ~~the~~ said relay receiving section to the receiving station.

7. **(Currently Amended)** The wireless transmission system according to claim 1, further comprising:

a transmitting station for transmitting, to the plurality of wireless stations, a signal to be transmitted to the receiving station;

said transmitting station includes:

a delay amount selecting section for selecting, from among a plurality of candidate values, ~~a~~ the predetermined delay amount to be given to the signal to be transmitted by each wireless station;

a delay amount adding section for adding the predetermined delay amount selected by ~~the~~ said delay amount selecting section to the signal; and

a transmitter signal transmitting section for transmitting, to each wireless station, the signal to which the predetermined delay amount has been added by ~~the~~ said delay amount adding section;

said transmission timing control section is provided in each wireless station;

each wireless station includes:

a relay receiving section for receiving the signal to which the predetermined delay amount has been added, transmitted by ~~the~~ said transmitter signal transmitting section;

a delay amount extracting section for extracting the predetermined delay amount from the signal received from ~~the~~ said relay receiving section;

said transmission timing control section determines the transmission start timing to be a timing obtained by delaying the reference timing by the predetermined delay amount extracted by ~~the~~ said delay amount extracting section; and

said transmitting section transmits a signal received by ~~the~~ said relay receiving section to the receiving station.

8. **(Currently Amended)** The wireless transmission system according to claim 1, further comprising:

a transmitting station for transmitting, to the plurality of wireless stations, ~~a signal~~ the signals to be transmitted to the receiving station;

said transmission timing control section and said transmitting section are provided in said transmitting station;

said transmitting station includes a delay amount selecting section for selecting, from among a plurality of candidate values, ~~a~~ the predetermined delay amount to be given to the ~~signal~~ signals to be transmitted to each of the wireless stations ~~station~~;

said transmission timing control section determines the transmission start timing to be a timing obtained by delaying the reference timing by the predetermined delay amount selected by ~~the~~ said delay amount selecting section;

said transmitting section transmits ~~the signal~~ the signals to each of the wireless ~~station~~ stations at the transmission timing; and

each of the wireless stations ~~station~~ includes:

a relay receiving section for receiving ~~a signal~~ the signals transmitted from said transmitting station; and

a relay transmitting section for transmitting ~~the signal~~ the signals received by ~~the~~ said relay receiving section to the receiving station.

9. **(Currently Amended)** The wireless transmission system according to claim 7, wherein:

the plurality of wireless stations are arranged so that wireless stations located within a predetermined distance from each other have communication ranges partially overlapping with each other;

said transmitting station further includes a delay amount adjusting section for adjusting the predetermined delay amount so that signals to be transmitted from wireless stations that are assigned the same delay amount as the predetermined delay amount selected by ~~the~~ said delay amount selecting section arrive at the receiving station at the same timing;

~~the~~ said delay amount adding section produces a delay signal indicating the predetermined delay amount adjusted by ~~the~~ said delay amount adjusting section; and

said receiving section receives signals transmitted from wireless stations that are adjacent to each other at different timings.

10. **(Currently Amended)** The wireless transmission system according to claim 8, wherein:

the plurality of wireless stations are arranged so that wireless stations located within a predetermined distance from each other have communication ranges partially overlapping with each other;

said transmitting station further includes a delay amount adjusting section for adjusting the delay amount so that signals to be transmitted from wireless stations that are assigned the same predetermined delay amount as the predetermined delay amount selected by ~~the~~ said delay amount selecting section arrive at the receiving station at the same timing;

~~the~~ said transmission timing control section determines the transmission start timing to be a timing obtained by delaying the reference timing by the predetermined delay amount adjusted by ~~the~~ said delay amount adjusting section; and

said receiving section receives signals transmitted from wireless stations that are adjacent to each other at different timings.

11. **(Previously Presented)** The wireless transmission system according to claim 9, wherein the plurality of wireless stations are arranged in a linear pattern.

12. **(Previously Presented)** The wireless transmission system according to claim 10, wherein the plurality of wireless stations are arranged in a linear pattern.

13. **(Previously Presented)** The wireless transmission system according to claim 11, wherein the plurality of wireless stations are formed into a plurality of groups of wireless stations, each group of wireless stations is arranged in the linear pattern, and each group of wireless stations are arranged parallel to each other.

14. **(Previously Presented)** The wireless transmission system according to claim 12, wherein the plurality of wireless stations are formed into a plurality of groups of wireless stations, each group of wireless stations is arranged in the linear pattern, and the groups of wireless stations are arranged parallel to each other.

15. **(Original)** The wireless transmission system according to claim 4, wherein the number of predetermined delay amounts is equal to the maximum number of effective branches.

16. **(Original)** The wireless transmission system according to claim 1, wherein the number of predetermined delay amounts is two.

17. **(Currently Amended)** The wireless transmission system according to claim 1, further comprising a delay amount selecting section for selecting the predetermined delay amount from among a plurality of candidate values;

the predetermined delay amount to be selected by said predetermined delay amount selecting section is determined in advance; and

said transmission timing control section determines the transmission start timing based on the predetermined delay amount selected by ~~the~~ said delay amount selecting section.

18. **(Currently Amended)** The wireless transmission system according to claim 1, further comprising:

a delay amount selecting section for randomly selecting the predetermined delay amount from among a plurality of candidate values; and

said transmission timing control section determines the transmission start timing based on the predetermined delay amount selected by said delay amount selecting section.

19. **(Original)** The wireless transmission system according to claim 1, wherein an orthogonal frequency division multiplexing scheme is used as the modulation scheme and the demodulation scheme.

20. **(Previously Presented)** The wireless transmission system according to claim 1, wherein a phase shift keying with varied phrase (PSK-VP) scheme is used as the modulation scheme.

21. **(Canceled)**

22. **(Currently Amended)** A transmitting station for use in a wireless transmission system for transmitting a signal to a receiving station via a plurality of wireless stations ~~and including~~, wherein a path diversity system is formed by at least one ~~transmitter side~~ of the wireless stations that is capable of signal transmission ~~station~~, a multi-path channel and the receiving station, the transmitting station comprising:

a delay amount selecting section for selecting, from among a plurality of predetermined delay amounts, a predetermined delay amount to be given to ~~a signal~~ signals to be transmitted to each of the wireless ~~station~~ stations;

a transmission timing control section for determining a transmission start ~~timing,~~ timing at which to start the transmission of ~~a signal~~ the signals from the wireless stations, the transmission of the ~~signal~~ signals being a timing obtained by delaying a reference timing for ~~the signal~~ transmission of the signals by the predetermined delay amount selected by said delay amount selecting section; and

a transmitting section for transmitting the ~~signal~~ signals to each of the wireless ~~station~~ stations at the transmission start timing,

wherein the predetermined delay amount is determined so ~~that~~ that: 1) the signals are received by the receiver side at a plurality of signal-receiving timings; 2) a number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches; 3) a difference between the plurality of signal-receiving timings is greater than or equal to a predetermined delay resolution; and 4) a difference between a maximum value and a minimum value of the signal-receiving timings is less than or equal to a predetermined maximum delay, and

when the number of ~~transmitter-side~~ wireless stations transmitting the signals is larger than the predetermined maximum number of effective branches, the number of signal-receiving timings at which the receiving station receives signals is made equal to the predetermined maximum number of effective branches.

23. **(Currently Amended)** A method for use in a wireless transmission system that includes a plurality of wireless stations, each wireless station transmitting a signal to a receiving station, ~~and~~ wherein a path diversity system is formed by at least one ~~transmitter-side~~ of the wireless ~~station~~stations that is capable of signal transmission, a multi-path channel and the receiving station, the method comprising:

determining a transmission start timing at which to start transmission of ~~a signal~~ signals from the wireless stations, the transmission start timing being a timing obtained by delaying a reference timing for the ~~signal~~ transmission of the signals by a predetermined delay amount;

transmitting the ~~signal~~ signals at the transmission start timing determined; and

receiving the transmitted ~~signal~~ signals at the receiving station,

wherein the predetermined delay amount is determined so ~~that~~ that: 1) the signals are received at the receiving station at a plurality of signal-receiving timings; 2) a number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches; 3) a difference between the plurality of signal-receiving timings is greater than or equal to a predetermined delay resolution; and 4) a difference between a maximum value and a minimum value of the plurality of signal-receiving timings is less than or equal to a predetermined maximum delay, and

when the number of ~~transmitter-side~~ wireless stations transmitting the signals is larger than the predetermined maximum number of effective branches, the number of signal-receiving timings at which the receiving station receives signals is made equal to the predetermined maximum number of effective branches.

24. **(Currently Amended)** A method for use in a wireless transmission system including a plurality of wireless stations wherein each wireless station transmits a signal to a receiving station, ~~and~~ wherein a path diversity system is formed by at least one ~~transmitter-side~~ of the wireless ~~station~~ stations that is capable of signal transmission, a multi-path channel and the receiving station, the method comprising:

determining a transmission start ~~timing,~~ timing at which to start the transmission of ~~a signal~~ signals from the wireless stations, the transmission start timing being a timing obtained by delaying a reference timing for the ~~signal~~ transmission of the signals by a predetermined delay amount; and

transmitting the ~~signal~~ signals at the transmission start timing determined,

wherein the predetermined delay amount is determined so ~~that~~ that: 1) the signals are received by the receiver side at a plurality of signal-receiving timings; 2) a number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches; 3) a difference between the plurality of signal-receiving timings is greater than or equal to a predetermined delay resolution; and 4) a difference between a maximum value and a minimum value of the plurality of signal-receiving timings is less than or equal to a predetermined maximum delay, and

when the number of ~~transmitter-side~~ wireless stations transmitting the signals is larger than the predetermined maximum number of effective branches, the number of signal-

receiving timings at which the receiving station receives signals is made equal to the predetermined maximum number of effective branches.

25. **(Currently Amended)** A method for transmitting a signal from a transmitting station to a receiving station via a plurality of wireless stations, wherein a path diversity system is formed by at least one ~~transmitter-side~~ of the wireless ~~station~~ stations that is capable of signal transmission, a multi-path channel and the receiving station, the method comprising:

selecting, from among a plurality of predetermined delay amounts, a predetermined delay amount to be given to ~~a signal~~ signals to be transmitted to each of the wireless stations ~~station~~;

determining a transmission start ~~timing,~~ timing at which to start the transmission of a signal, the transmission start timing being a timing obtained by delaying a reference timing for the ~~signal~~ transmission of the signals by the predetermined delay amount selected; and

transmitting the ~~signal~~ signals to each of the wireless ~~station~~ stations at the transmission start timing,

wherein the predetermined delay amount is determined so ~~that~~ that: 1) the signals are received by the receiver side at a plurality of signal-receiving timings; 2) a number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches; 3) a difference between the plurality of signal-receiving timings is greater than or equal to a predetermined delay resolution; and 4) a difference between a maximum value and a minimum value of the plurality of signal-receiving timings is less than or equal to a predetermined maximum delay, and

when the number of ~~transmitter-side~~ wireless stations transmitting the signals is larger than the predetermined maximum number of effective branches, the number of signal-receiving timings at which the receiving station receives signals is made equal to the predetermined maximum number of effective branches.